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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,474	03/30/2001	David Windsor Rillie	1128.014	5743

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EXAMINER

NGUYEN, CHI Q

ART UNIT PAPER NUMBER

3637

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,474

Applicant(s)

RILLIE, DAVID WINDSOR

Examiner

Chi Q Nguyen

Art Unit

3637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Jaster (US 5,648,873).

Jaster discloses a passive solar collector comprising at least one skylight shaft 17, a skylight dome 18, at least one layer of reflective film (col. 3, lines 43-44) coated wall 17 is considered to be equivalent to the reflective film and adhesive recited in claim 1 of the instant application (col. 4, lines 23-25), since Jaster used the term "films" is considered more than one layers, and at least one surface irregularity formed known as conical reflector 80 by laminating triangular-shaped sections (col. 8, lines 3-6, figs. 1-5), a light diffusing lens structure 40 having longitudinal grooves 40' (fig. 2) and is suspended beneath housing 12 (col. 5, lines 10-11).

3. Claims 1-3, 8-14, 17-19, 22- 24, 27-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Freeman (US 4,339,900).

Freeman shows (see abstract) a reflective film adheres to the inside of the shaft 17. The folded surface of the shaft (fig. 3) serves as the surface irregularity. The shaft is non-transparent, a skylight dome 32 covering a top end of the shaft, a diffuser plate 55.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 7-9, 11-13, 27-32, 33-34, and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeBlock et al. (US 5,983,581) in view of Northrup (US 4,022,186).

DeBlock discloses a tubular skylight with offset dome comprising a tube assembly 16 including at least one skylight shaft 40, 42, 44, at least one surface irregularity 72, 74, having a prismatic portion 82 with uneven (i.e. grooved), pattern grooves 100, forming at angle of 92-degree (fig. 5), reflective coatings formed on the inside of the shafts 40, 42, 44 wherein this reflective coatings is considered to be equivalent to the reflective film and adhesive recited in claim 1 of the instant application and DeBlock uses the term of reflective coatings are considered more than one layers of coating (col. 5, lines 50-53), a skylight dome 12 assembly having a dome 20, a roof flashing 22, a stepped curb 24 and an integral flashing flange 26 covering a top end of the shaft 40, a diffuser assembly 14 having a diffuser 30 a ceiling trim ring 32, a tube/ring seal 34. (See figs. 1-4, 6-8).

DeBlock discloses the structural elements for the tubular skylight as stated. DeBlock does not disclose expressly at least one surface irregularity formed in at least one of: the adhesive, the reflective film, and the shaft.

Northrup teaches compound lens solar energy system having shaft 21 with irregular surface (fig. 2).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine DeBlock's disclosure with Northrup for irregularity formed on the surface of the shaft. The motivation for doing so would have been to provide more accurate control of the light reflection.

6. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman in view of DeBlock.

Freeman discloses the structural elements for the skylight as stated. Freeman does not disclose expressly the film includes plural layers.

DeBlock teaches a tubular skylight comprising shaft 40, 42, 44, reflective coatings formed inside the shafts 40, 42, 44. (The term "reflective coatings" in ~~film~~ plural form would broadly cover multi-layers film).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Freeman with DeBlock's for multi-layers film. The motivation for doing so would have been to provide more light reflection passing through the shaft.

7. Claims 5, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeBlock et al. (US 5,983,581).

DeBlock discloses the structural elements of the skylight assembly as stated. DeBlock does not disclose expressly and specifically the reflective film or coating is greater than 50% specularly reflective and each irregularity includes an upper face establishing a first angle with respect to a long axis of the shaft and a lower face establishing a second

angle with respect to the long axis of the shaft, the first angle being more acute than the second angle. It would have been obvious to one of ordinary skill in the art at the time the invention was made to obtain reflective film or coating is greater than 50% specularly reflective and each irregularity forming angles more acute than the other, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art.

8. Claims 14, 18, 19, 23, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeBlock et al. (US 5,983,581).

With regard to method claims, DeBlock disclosed the structural elements for the skylight, DeBlock does not teach specifically the method of assembling for the skylight structure, and examiner considers this to be the obvious method of setting of the device of claims.

9. Claims 15, 16, 20-21, 24-25, 17, 22, 26 rejected under 35 U.S.C. 103(a) as being unpatentable over DeBlock (US 5,983,581) in view of Knudson (US 4,505,143).

DeBlock discloses the structural elements for the skylight as stated. DeBlock does not teach expressly the method of forming surface irregularity by rollers or by press.

Knudson teach panel forming comprises a panel 12 presses by two rollers 67, 65 to make the irregularity surface 57 (cols. 5-6). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine DeBlock with Knudson's to have the shaft surface irregularity process. The motivation for doing would have been to provide more accurate control the light transmitting through the shaft.

Response to Arguments

9. Applicant's arguments filed 9/20/02 that the Jaster's reference does not show the shaft to which the dome is attached, and assumes that Jaster's skylight shaft is transparent (not made from metal) have been fully considered but they are not persuasive. As stated in the rejection that Jaster's teaches a skylight collector comprising a dome 18, a shaft 17, at least one layer of reflective film coated wall 17, a light diffusing lens structure 40 is suspended beneath housing 12. Examiner does not agree with the applicant's assumption that the Jaster's reference does not teach the non-transparent skylight shaft because Jaster's skylight shaft is coated with an optical thin films, which made it non-transparent. Furthermore, Jaster does not need to have a transparent skylight shaft to collect the light since the transparent dome is designed to collect light and pass through the shaft and dissipated through the light-diffusing lens.


Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chao (US 5,896,712), (US 5,896,713), Sutton (US 5,099,622) teach the light-collecting skylight including the shaft is not transparent because made by metal, etc.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chi Q. Nguyen whose telephone number is (703) 605-1224, Monday-Thursday (7:00-5:30), Fridays off or examiner's supervisor, Lanna Mai can be reached at (703) 308-2486. The fax number for the organization where this application or proceeding assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


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4/22/03